

Engineer Update

Vol. 26 • No. 2 • February 2002

PMBP training for all coming soon

By Becki Dobyns Headquarters

There are three types of people in the U.S. Army Corps of Engineers:

Those who know quite a bit about the Project Management Business Process (PMBP) and use it in their work

 Those who know some, but have a lot of questions.

•Those who neither know nor care about PMBP because they can't see how it possibly relates to them.

In which group are you?

If it's up to the PMBP Curriculum Team, every Corps employee will be in the first group a year from now. Using the Project Management Business Process throughout the Corps, for all our work, is what Chief of Engineers, Lt. Gen. Robert B. Flowers, calls his number-one priority.

Look for the first two courses of the PMBP curriculum, the *Introduction* and *Why PMBP*?, coming to a desktop near you early this spring. People throughout the Corps will receive a compact disc marked "PMBP" in large letters. The self-study CD is one part of the curriculum package, which also uses the Internet for web content, small group discussions, mentoring and coaching, and classroom training.

"The Introduction familiarizes people with what the

curriculum is all about, introduces the PMBP, and provides a roadmap for the entire curriculum," said Karen Northup, the curriculum's project manager. "It's a great place to start because it shows people where we are as an organization. You also get to hear the Chief's expectations of each of us in PMBP, was well as the PMBP's

relationship to creating a learning organiza-

"Then the Why PMBP? course answers a lot of questions people have about the business process, like what it means to them on the job, and why the Corps has chosen the Project Management Business Process as our way of doing work," Northup continued. "It talks about the environment (or culture) we need for the success of PMBP." PMBP (also called the USACE

Business Process), is described in Engineering Regulation 5-1-11. It focuses around the idea that work in USACE will be

accomplished through teams, so the PMBP curriculum naturally focuses a lot on teamwork.

"The curriculum helps us in the process of transforming ourselves into a project-focused, team-based, learning organization that truly operates corporately," said Northup. "For some people, that's pretty close to the way they work now. We look to them to help us carry the message into their teams every day. For others, it's a

major shift, and they're going to need help understanding what behaviors and expectations of them are associated with the PMBP. It's important that everyone understand how they fit in the PMBP, and what's in it for them.

"Our goal is that everyone in the Corps will have some exposure to the PMBP curriculum," Northup continued. "While the curriculum is being designed with all members of the Corps in mind as the audience, at the same time it allows flexibility for individuals to go into varying levels of detail about working in project delivery teams as appropriate for their specific work situation."

Subsequent courses will focus on topics like customer relationships, working in project delivery teams, and ensuring quality and organizational success. And because the PMBP will use a new automated system for managing work (P2), the curriculum will have to teach that as well.

Courses will be delivered during this calendar year and into the next, a little at a time. A deployment kit with helpful hints and recommendations on how to best implement the curriculum at each Corps location will be included with the courses.

The curriculum project also includes training for facilitators in each Corps office to lead the small group discussions, which are critical to the curriculum's success. Mentoring training is available on-line right now for those designated to help Corps members in understanding and implementing PMBP.

For more information about the PMBP curriculum and related projects, visit the website at http://pdsc.usace.army.mil/pmbp.htm.

Automated maintenance system fielded

By Michael Tevlin Portland District

Without fanfare, Aug. 20 marked a turning point for the U.S. Army Corps of Engineers. In Portland District, the Corps' new Facilities and Equipment Maintenance (FEM) system went live.

More than 100 people at national, district, and project levels worked more than eight years to develop an automated maintenance management system.

As FEM rolls out Corps-wide during the next two years, employees will switch to a computerized maintenance management system that has received nothing but praise.

FEM will extend equipment life, cut operating costs, track facilities maintenance, and enable unprecedented information sharing and collaboration in maintenance management.

"FEM is a magnificent system," said Tim Seeman, FEM Implementation Manager. "It's powerful and robust. It has a high degree of capability, yet is also easy to use."

Benefits

What is the Facilities and Equipment Mmaintenance system? Basically, it's a computerized system that automates the Corps' maintenance program. Of course,



Maintenance workers perform a high-voltage rewinding at The Dalles Dam. The new Facilities and Equipment Maintenance system will automate maintenance throughout the Corps. (Photo courtesy of Portland District)

that's easier said than done. After all, the Corps manages hundreds of thousands of pieces of equipment and facilities (often called assets).

Introduction andide

Yet, every piece eventually will find its way into the FEM database in the next two years. When data input is complete in 2003, FEM will hold the Corps' entire asset base on 20-unit server farms at the Corps of Engineers Enterprise Infrastructure Services (CEEIS) Processing Centers in Portland, Ore., and Vicksburg, Miss.

But it's what FEM will do with that data that makes it so powerful. For example, a FEM user will be able to schedule maintenance on any piece of equipment and track the cost of that work, procure materials and services, schedule resources, and get a detailed work history on a property.

And that's just a short list of FEM's apabilities.

FEM affects virtually every area of the Corps and integrates everything from inventory management to work orders to real property management.

Doing without

To understand FEM's importance, one must look at the magnitude of the Corps' facilities and equipment base and how we tried to manage for years without an integrated system.

Nationwide, the Corps manages millions of pieces of equipment and millions of dollars of real estate. The largest project, The Dalles/John Day, has more than 200,000 separate assets.

Then there's Willow Creek, a 250-acre lake with a dam and powerhouse with less than a dozen pieces of equipment.

"As the caretakers of a significant percentage of the nation's infrastructure, the Corps is responsible for managing, maintaining, operating, and repairing it," said Seeman. "Maintenance is the key word."

Yet, the Corps' technology to manage maintenance was stuck in the past. Part

Continued on page two

Insights

A New Year's resolution that is easy to keep

By Col. Lowell Moore Chaplain, U. S. Army Corps of Engineers Artwork by Elmer Barkley Headquarters

OK! How many of you have already broken your New Year's resolution?

This week I was working out with Rob Anderson, Chief Counsel for the U.S. Army Corps of Engineers, and he commented about the increased number of people in the gym - obviously motivated by the good intentions of New Year's resolutions. We joked about the increased number of sweaty bodies, and surmised that it wouldn't be long before all the resolutions would be broken, and the gym would be turned back over to us hard-core exercise nuts.

Just yesterday, I was lamenting over my broken resolution to lose the eight pounds I gained from too much Thanksgiving, Christmas, and New Year's festivities. But then, New Year's resolutions rarely work for me because I've never taken them seriously.

However, something happened to me today that caused me to make a resolution, and I'm serious about it.

My chaplain assistant, Sgt. First Class Brenda Ruiz, and I went to Walter Reed Army Medical Center to visit Jean McGinn, a lady from our weekly Monday prayer luncheon. She had fallen on Dec. 20 and broken her hip.

When we caught up with her, the physical therapists were wheeling her to the Physical Therapy (PT) Room, so we accompanied her to PT. As we walked and chatted, Jean joked that PT really meant Physical Torture.

We visited with Jean for awhile, I prayed with her, and we were about to leave when a physical therapist stopped me and said that there were a couple soldiers here from Afghanistan who would probably like me to visit with them before I left.

I looked around and saw two handsome, smiling faces. The faces belonged to two soldiers who were smiling in spite of the fact that they were both missing a leg (one just above, and one just below the knee). One of the soldiers was also missing an arm.

While we chatted, I learned that their injuries were the result of land mines in an area that was supposed to be safe. As I was about to leave, I nodded toward the missing leg of one man and said, "I'm sorry about your leg." He smiled and replied, "Don't be, I'm OK."

When I left, they thanked me for taking the time to visit and pray with them. I was humbled that these wonderful young Americans would thank me for my time. I felt like I was in the presence of heroes, and I felt like I should be thanking them.

As Brenda drove us back to the USACE Headquarters, I'm afraid I wasn't much of a conversationalist. I just couldn't get those guys out of my mind. For them, the War on Terrorism was more than a news report every evening and an inconvenience in the airport. For these young heroes, the War on Terrorism meant a life-changing sacrifice.



And, in spite of their losses, their attitude was so positive and up-beat that I felt guilty for $\ensuremath{\textit{ever}}\xspace$ grumbling or complaining. They made me ask myself, "What do I have to complain about?"

This experience caused me to take another look at myself and at my life's priorities. It made my worries about a few unwanted pounds seem so insignificant that I'm embarrassed to admit that this was my big concern for the New Year.

My new New Year's resolutions are to pray for our servicemembers who are risking all and making tremendous sacrifices so that I can enjoy the freedom I too often take for granted, and to be more appreciative of my many God-given blessings.

God bless America - and the men and women who defend her!

(The views in this article are those of the author and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)

Maintenance

Continued from page one

of the problem was size, but old notions of how to conduct maintenance management aggravated the problem.

"In the past, every district and project in the Corps managed maintenance as it saw fit," Seeman said. "The idea was, 'It's your asset. You know how to maintain it better than anyone else does. We don't want to tell you how to run your business.'

But that approach had significant drawbacks:

- Lack of tools for information sharing, which hampered developing common maintenance philosophies and best practices.
- Lack of standardization. "We may have reinvented the wheel many times," Seeman said.

 • Lack of documentation.

"The Corps could not back up claims that it was maintaining its facilities effectively," said Terry Armentrout, the Corps' national project manager for FEM development and implementation. "There were a lot of places in the Corps with no maintenance protocol.'

FEM roots

There were attempts to fix the problem. Armentrout recalls a 1965 directive from Portland District to set up a maintenance system, which resulted in a "great big tub and tickler file" with thousands of pieces of paper.

In 1975, when Armentrout was chief of maintenance at the Willamette Valley Project, he and Ray Schmitz, then chief of maintenance at Bonneville Dam, tried to set up a computerized maintenance system. But all they had was one Wang computer with 32 kilobytes of memory. "We didn't get very far," Armentrout said.

In 1992, Corps officials from the directorates of Logistics and Civil Works identified a need for a computerized maintenance management system. In 1993, Civil Works commissioned a study that recommended an integrated maintenance management system.

Later in 1993, Corps maintenance experts met in Albuquerque, N.M., for about three weeks and hammered out the Structured Requirements Analysis Plan (STRAP), which defined our maintenance management

Using the STRAP as a guide, the Corps surveyed commercial-off-the-shelf automated maintenance systems. The survey identified an asset-management program, MAXIMO, already in use at Bonneville Dam. MAXIMO, deployed by more than 8,000 companies worldwide, met about 95 percent of the Corps' business requirements.

At that point, Congress recommended that the Corps look at DoD maintenance systems. DoD had already chosen MAXIMO as the basis for an expanded maintenance management system called the Facilities and Equipment Maintenance (FEM) System.

Meanwhile, the Directorate of Logistics funded an independent study to identify the best business system for the Corps. The study, conducted by Howard University, said that FEM met 99 percent of the Corps' maintenance requirements.

Finally, the Corps adopted FEM as our standard maintenance system. The Corps signed an agreement with DoD's program manager for FEM, the Naval Systems Support Group (NSSG) to implement FEM in the Corps.

Portland

When it came time to pick a Corps test site for FEM, Armentrout volunteered Portland District.

"We're the largest district in terms of the size and scale of projects," he said. "We already had experience with an automated maintenance management system, so it wasn't a new mindset. As it turned out, we really were well-equipped to take this on."

For 12 months before Aug. 20, NSSG and its implementation contractor, Anteon, worked with the Corps and CEEIS staff to set up the system in Portland District. They installed three Sun Solaris servers and their infrastructure; installed, configured, and tested the FEM software and Oracle database; and trained more than 300 district employees.

A week before going online, all data from the district's various legacy systems was downloaded into the new FEM database at the WPC. None of the district's projects lost any maintenance data, which in some cases was 12 to 15 years of work.

Efficiency

From Day One, the transition has been a model of efficiency. That is a hopeful sign for the Corps-wide rollout. "The actual transition has gone much smoother than anticipated by us and by Anteon," Seeman said. '(FEM) worked right out of the gate.'

When fully implemented, FEM will cost taxpayers

Continued on next page

ENGINEER UPDATE is an unofficial publication under the provisions of AR 360-1. It is published monthly by offset for the Headquarters, U.S. Army Corps of Engineers

Editorial views and opinions expressed are not necessarily those of the Corps of Engineers or the Department of the Army. Letters to the editor are encouraged.

Deadline for submitting articles is the 15th of the month preceding publication. Subscriptions are available free of charge but must be requested in writing. Circulation: 35,000.

Address mail to: EDITOR, ENGINEER UPDATE, CEPA-C, Washington, D.C. 20314-1000. Telephone (202) 761-1808. Photographs are U.S. Army photos unless otherwise credited. Available on the Internet at http://www.hq.usace.army.mil/cepa/pubs/update.htm.





Early friendship carries adult lessons

Article by Sunday Pearson Sacramento District Artwork by Jan Fitzgerald Headquarters

"Dear Christine:

"It's been more than 40 years since we last communicated. I've thought about you often and miss the carefree fun we used to have together. Those days seem so long ago, and yet so vivid in my mind. I pray that God has blessed your life as He has mine.

"It's a different world that we live in today, yet some things haven't changed much, have they? Life can still be cruel, and even now prejudice exists for those who are different. Of course, I have no first-hand knowledge. Truth is, Christine, my perspective has only been from afar. But I regret that I wasn't there for you all those years ago when you experienced the pain of prejudice. Together, my friend, we might have taken a stand against hatred. Together, we could have at least tried."

And so begins the letter that I will never send to my friend, Christine Johnson. I long ago lost track of her. Christine and I were only five years old in the 1950s when we lived in Baumholder, Germany.

I came from a family that today would be called "dysfunctional." I was the stepdaughter of a career soldier whose first goal in life was to further his career, and whose second goal was to make my existence at home a living hell. He succeeded on both counts.

We lived in a government apartment building on the third floor. Christine and her family were below us on the first floor. I had to walk past her front door everyday. Her mom was a great cook, and often the stairwell was filled with the smell of delicious home cooking.

Christine was black and I was white, but that meant nothing to us at the time. She was my best friend! I spent every moment I could at her apartment. I felt good there. She had a loving home. No abuse, only unconditional love. Her mother used to bathe us together in a big German bathtub. I can still see the thick deposit of dirt we



left around the tub after our bath together. We were in perpetual motion and into everything, which meant we got *really* dirty!

I so enjoyed my time with Christine and her family. Hers was the first real family I emotionally connected to.

In Germany, at that time, race didn't matter. But that soon changed.

Around 1958, the Army moved an entire infantry division to Fort Hood, Texas. My stepfather and Christine's father were in that division, which meant we moved at almost the same time. Since we did not get into government quarters right away, it was almost two years before I found Christine and her family again.

We moved into McNair Village at Fort Hood, and I discovered that Christine and her family lived there, too. I was thrilled! I went over to her row house one day to see her. Only two years had past, but we were now worlds apart. I remember wondering what had happened to our relationship. Why was my friend so distant and wary of me? She would hardly come outside!

I was 10 years old at the time and didn't know what to do, so I did nothing. I let my best friend find her own way through life at a time when she probably could have used a friend

In the two years since I had seen her, I did not know that her perspective on life had changed. It was not until many years later that I learned enough American history to understand the bigotry and prejudice she must have experienced in Texas.

Texas during the 1950s was a "white only" society. If you were any color other than white, your life was insignificant. I remember visiting the state capitol in Austin and seeing "white only" drinking fountains, "white only" restrooms, and "white only" food counters.

None of this affected me of course; as a matter of fact, I was too naive to even wonder about the significance of the signs. But Christine must have known. I am certain she experienced the pain of rejection first-hand. She must have known fear for the first time in her young life, rebuffed for absolutely no reason, ridiculed when none was deserved.

It was so wrong! And it still is!

A couple of years ago, I was in Folsom, Calif., in a particular outlet store. I was the only one in the store, and had been browsing for several minutes totally unbothered and virtually unnoticed. I was paying for my purchases when in walked a handsome older black gentleman and his granddaughter. It was Sunday and it appeared they had just come from church, as had I.

As I stood before the cashier ready to hand her my check, I noticed her head nod to another employee in the back of the store toward the two people who had just walked in. The other cleark made her way to the front, but she never once asked if the man and his granddaughter needed assistance finding something. Instead, she observed them suspiciously.

They had not done that to me! I was horrified by the store employees' behavior. After all, this was 1999, not 1959! This was California, not Texas!

So what did I do? What did I say? I'm ashamed to tell you I said and did *nothing!* I again let the prejudice go uncontested and the injustice go unchallenged.

Then one afternoon not long ago I told my family about Christine Johnson. I had not spoken her name out loud for many, many years. I began to cry gut-wrenching sobs for a friendship that never was, and for the realization that I had been given an opportunity as an adult to stop the same kind of injustice and again did *nothing!* I was mortified by my behavior, too ashamed to even tell my family the whole truth.

How on Earth could I have let the incident happen in the outlet store without saying something? Was my character so flawed that when faced with a similar situation I again did nothing?

I have learned that prejudice exists in many forms, and not just in the southern states. We are bombarded with its ugliness daily. Some of it subtle, like what I saw. All of it wrong. It is painfully easy to turn a blind eye to this insidious monster that robs people of dignity and opportunity.

I pray that as I walk through this journey of life, I will be given another chance as an adult to right a wrong. That I will be a bold advocate for the oppressed, to speak for those without a voice and to never again stoically stand by and allow injustice to another human being!

That is part of the reason why I wrote the letter to Christine Johnson, even though I know I will never be able to mail it.

"In closing, Christine, I'm pleased to let you know I'm doing well. During the years, it has been personally humbling for me to face my imperfections. The Lord knows that I'm trying to be a better person, and He continues to guide my path. So, until we meet again, either in this life or the next, I love you Christine, and remain your best friend,

Sunday"

(The views in this article are those of the author, and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)

Maintenance

Continued from previous page

about \$17 million. That's \$7 million for software site licenses, screen customization activities, legacy systems interfaces and system testing, plus another \$10 million to deploy throughout the U.S. Army Corps of Engineers during 2002 and 2003.

Taxpayers will get more than their money's worth, say Corps officials. Benefits include reduced operating costs, fewer breakdowns, and business efficiencies that add up to an improved preventive maintenance program.

But Armentrout cautions that results won't be evident immediately. "It'll take some time for the software to be fully established and functional."

One notch higher

Still, Armentrout can hardly wait to see the results. "We're a large facility here at The Dalles/John Day Project," he said. "Just to keep track of it all requires some sort of process, whether it's paper or automated. FEM makes that process more efficient to do what needs to be done."

Armentrout also believes the FEM data will allow other agencies, such as the Bonneville Power Administration, to clearly see which power generation projects are underfunded and need a greater level of maintenance. The data will allow engineers to do a better job of prioritizing work.

"The most important thing is we've got it now and we're using it," Armentrout said. "We've moved our capabilities one notch higher."

(Michael Tevlin is a contract writer for the Portland District.)



The Facilities and Equipment Maintenance system automates the upkeep on all Corps assets, like these generators at Lower Granite Dam in Walla Walla District. (Photo from the Digital Visual Library)

Pittsburgh District floats a dam

For the first time in the history of the inland navigation system, a dam floated.

The Braddock Dam Segment One floated into place and set down on Dec. 7, mating underwater with 47 drilled shafts that make up the dam segment's foundation. Vertical and horizontal alignment of the segment came within one inch of the design.

Segment One, the larger of two segments, is a reinforced concrete marine structure 330 feet long and weighing 16,600 tons. On Dec. 5 towboats moved it from the project outfitting pier a mile-and-a-half upstream, then it was sunk in place. Underbase grouting filled the gap between the river bottom and underside of the dam segment. Concrete will be placed inside Segment One, then grouting will connect the tops of drilled shafts where they fasten to the underside of the segment.

Throughout construction, float-out, and setdown, thousands of people have watched on the Internet. The district installed webcams at the Leetsdale fabrication site and other sites overlooking Braddock Dam. Those interested can click on www.lrp.usace.army.mil. On the day of setdown, the number of visitors to the webcam page increased 20-fold.

Before the December setdown, and before outfitting and pier wall extensions, Braddock Dam Segment One was towed 27.5 miles along the Ohio and Monongahela rivers from its casting site at Leetsdale, Penn., to an outfitting dock at Duquesne, Penn.

The 15-hour trip last July 26 was a major media event in western Pennsylvania. The flotilla included the 3,300 horsepower primary towboat, two assist towboats, plus escort vessels from the Corps, Coast Guard, and Pennsylvania Fish and Boat Commission. Along the way, thousands of onlookers lined the riverbanks and cheered, as others tracked its progress on television and radio.

When completed, Braddock Dam Segment One will form the lower third of the pier bases and overflow sections for three bays of a five-bay gated navigation dam. Segment Two is waiting at the Leetsdale casting site for a similar voyage early this year.

Building the new Braddock Dam using "in-the-wet" methods is at the forefront of a Corps initiative to adapt cost-saving techniques to sustain the nation's navigation infrastructure. The Braddock project at Braddock, Penn., is part of the Lower Monongahela River Navigation Project. Replacing the nearly 100-year-old fixed crest dam with a gated dam will let Pittsburgh District replace old, inefficient locks at Charleroi, Penn., and eliminate the 100-year-old Locks and Dam 3 at Elizabeth, Penn.

Traditionally, inland navigation projects are built "inthe-dry" using large temporary cofferdams to provide a dry work area. When construction is complete, the cofferdam is flooded and removed. The "in-the-wet" technique eliminates the time and expense of a cofferdam, and allows building the dam segments off-site while the dam foundation system is built from a floating plant.

Dam segments

The Braddock Dam segments are being built in two hollow concrete segments, designed for floatation, that resemble large concrete barges. The segments are assembled at an off-site casting facility using both precast and conventional cast-in-place concrete. The dam segments comprise the overflow surfaces of the dam, the gate sills, part of the stilling basin, and a small portion of the pier bases. In all, 438 precast concrete panels, some weighing 80 tons, were cast and erected to form the exterior and internal diaphragm walls of the dam segments.

Dam Segment One, at 11,600-tons, measures 333 feet by 104 feet. (It's weight increased as more concrete and grout was added later.) Dam Segment Two, at 9,000tons, measures 265 feet by 104 feet.

The post-tensioned concrete base slab of each segment was cast around a grid of corrugated metal "cans" that align with 77 78-inch-diameter foundation drilled



Towboats push Braddock Dam Segment One down the river. (Photo courtesy of Pittsburgh District)

shafts in the foundation system. Reaction beams in the bottom slab transfer the segment dead weight to another 12 setdown shafts.

Flat jacks and steel pistons cast into the segment bottom slab allow leveling of the segment after setdown.

Foundation

The foundation is upstream and downstream sheetpile cutoff walls, a graded gravel base, a grid of reinforced concrete drill shafts extending from the riverbed into bedrock, and a series of steel bearing piles for the dam tailrace area. Pre-excavation of the riverbed from the existing lock river wall to the left bank abutment toe provided a 140-foot wide, 650-foot long foundation footprint. The 400,000 cubic yards of dredged material helped restore a nearby brownfield.

After pre-excavation, steel sheet piling was installed to provide both upstream and downstream cutoff walls that will restrict flow paths beneath the new dam, and act as retaining walls during other stages of work. The area between the completed cutoff walls was dredged to final grade, then covered with a graded gravel base. Then the drilled shafts and tailrace H-pile foundation were built.

The reinforced concrete drilled shafts will carry the weight of the dam and operating loads into bedrock. Each shaft is 78 inches in diameter and about 40 feet long, with 15 to 20 feet of the length drilled into bedrock. The dam tailrace will be supported by 150 steel bearing H-piles driven to bedrock.

Putting the pieces together

Before each segment can be positioned and submerged onto the foundation, each must be outfitted with additional bulkheads, work platforms, ballast piping and equipment, and the pier bases must extend to a height that will be above water after set down. After outfitting, each segment will be transported down river by towboats and positioned close to the set-down site.

Then, steel cables from winches attached to the segment will be run to six mooring piles, and the winch-cable system will position the segment above the set-down drilled shafts. The cables and mooring piles will hold the segment's alignment as water is pumped into the hollow compartments to slowly lower it onto the drilled shaft foundation.

Grouting and concrete

Following set-down, the area between the graded gravel base and the bottom slab of each segment is grouted to prevent any water flow below the dam. After underbase grouting, the interior compartments will be filled with a combination of concretes. They will first be filled with a highly flowable concrete designed for underwater placement. Once this "tremie" concrete is placed, each compartment can then be dewatered and filled with concrete placed in the dry. Additional grout will "lock" the dam segment onto each foundation shaft.

Tailrace

After segment infilling, the dam tailrace will be built in-the-wet using interlocking pre-cast concrete panels. There are 31 tailrace panels, each more than 30 feet long and between 10 to 20 feet in width. Each panel will interlock with the adjoining tailrace panel and a special groove cast into the downstream edge of the dam segments.

The panels will be installed from cranes mounted on floating plant using a guide frame. The area beneath each tailrace panel will then be filled with tremie concrete to create a tailrace section supported by the H-pile system.

Completion

The upper 40 feet of the five dam piers, the dam tainter gates and operating machinery, footbridges, and equipment buildings will be completed by floating plant. The dam's four tainter gates are 110 feet wide and each will be operated by large hydraulic cylinders.

Other features of the Braddock Dam project include a left closure weir that will connect the left end of the new concrete dam to the existing left abutment wall. A right closure also will be completed between the new dam and the existing lock wall.

To complete the project, the existing fixed-crest concrete dam about 600 feet downstream will be removed down to the riverbed. The demolished materials will be placed in downstream locations for fish habitat. The work will be completed in 2003.

(Henry Edwardo, Brian Greene, and William Karaffa, all of Pittsburgh District, contributed to this article.)



Mule-power cut the initial trail to the landslide site, and carried out the first loads of material. (Photo courtesy of Mobile District)



After mule-power built the road, heavy equipment took over to remove landslide material and stabilize the slope. (Photo courtesy of Mobile District)

Mules help repair earthquake damage

By Janet Shelby Mobile District

Mule-power on a Corps project?

No, this is not from the 1800s. Working to mitigate damages from a landslide near Pereira, Colombia, Mobile District brought in mules to open roads for heavy equipment.

On Jan. 25, 1999, an earthquake measuring 5.9 on the Richter scale hit the Armenia area of western Colombia. It killed 707, injured 25,000, and left 37,000 homeless.

Landslide danger. Landslides had been a problem in this area for years, but this earthquake made the problem much worse, initiating active movement of an unstable landmass in Pereira. The Pereira landslide was particularly dangerous because of the potential for loss of life from additional slides. The slides periodically blocked the only road into town. This area is in the coffee region of Colombia, and the landslide would affect coffee supply nationally and internationally.

The second potential for disaster was that the mountainside is above the water supply intake for Pereira, a city of half a million people. Their water supply was threatened if the landmass failed; the river feeding the intake had been temporarily blocked by one failure. The people of Pereira sought financial and technical support for mitigating these problems.

Corps help. In April 1999, the U.S. Agency for International Development (USAID) asked the U.S. Army Corps of Engineers to conduct an assessment of the landslide problem. Dr. Lawson Smith and Steve Collingsworth from the Engineer Research and Development Center completed the assessment of the landslide. They made recommendations to Aguas y Aguas (a local water agency for Pereira) and USAID on a technical approach to reduce the threat of landslides. In October 1999, the technical plan was approved and funded by USAID for \$2.2 million.

Investigation of geologic and hydrologic conditions at the site revealed that the best solution to prevent the landslide was to remove potential landslide material from the top of the hill, and the implementation of surface and subsurface drainage. Ron Nettles, a geotechnical engineer with Mobile District, did the design and specs plans to begin excavation at the top of the hill.

From the beginning, this project required more than just technology for answers. It required ingenuity and an exchange of building methods between the Corps and Colombia because there was so much soil to be removed, and the denorm

This project is now a case study of design and construction methods in Colombian universities in the ge-



This slope in Columbia was a landslide hazard after the 1999 earthquake. It is now stable, thanks to the removal of unstable material, and the installation of surface and sub-surface drainage. (Photo courtesy of Mobile District)

ology masters and Ph.D. degree programs.

Mules and ingenuity. The contract was awarded to Constructora Codinem as primary contractor in April 2000, with Caicedo Ingeneria as primary subcontractor. Jamie Rueda, a civil engineer at the Colombian office, said the contractor used 22 trucks, 10 pieces of heavy equipment, 12 mules, and one cable to move more than 200,000 cubic meters of soil from the site. The mules moved about three tons of material a day. Eighty-seven local laborers worked 170,000 manhours on the project.

To get heavy equipment to the top of the hill to begin moving soil, the contractor had to build a road. First a small trail was built by hand, then widened using mules and small equipment, until finally the trail became stable and large enough to move the heavy equipment to the top to move soil. Initially, mules were also used to transport material down the mountain.

Once the contractor reached the top of the slide, they removed material in a bench fashion down the side of the mountain, forming steps to relieve pressure from the slide

Big project. In addition to the soil excavations, six kilometers (3.72 miles) of ditches and drains were built, six kilometers of river bank stabilization were completed, seven kilometers (4.34 miles) of roads were maintained, and 7.5 acres of the site were planted in grass.

The construction team worked through difficult, dangerous conditions to complete excavations last January. One of the most challenging conditions was the unusually high rainfall of 118 inches during the year. The project was completed last May.

Corps family first on scene at car accident

By Jim Knowles St. Paul District

(Editor's note: In January, Jim Knowles and his wife assisted at a car wreck in Utah. Here is his account of the accident, and the lessons he learned.)

Recently my wife and I drove our daughter to San Diego to begin law school. On our return trip we took I-15 from southern California north into Utah, where we picked up

The 100-plus mile stretch of interstate between Richfield and Green River is desolate. My wife and I stopped for coffee in Beaver, Utah, more than 135 miles from Green River. It had just started snowing, but the roads were in good shape and we decided we could press on to our planned stop in Grand Junction, Colo. My truck is in excellent shape and it was still early, about 7 p.m. Grand Junction was another three hours away, an easy drive for an experienced driver.

But soon the snow became heavier, visibility dropped, and we were down to one lane of driving. I slowed the truck to 50, and it took more than two hours to drive the 100-plus miles from Richfield to Green River, where we decided to spend the night.

The following morning the sky was clear, and after a hot breakfast and several cups of coffee I pulled out onto I-70. The interstate had been plowed during the night and the right lane was clean and dry, but the left lane was still covered with ice. Still cautious, I drove the truck about 60, instead of the posted 75 mph speed limit.

After about 30 minutes, a Ford Excursion passed us at high speed, towing a trailer. As the big sport utility vehicle disappeared over the next hill, I told my wife it was going too fast for the road conditions.

Five minutes later, we found that same vehicle resting in the highway median, the trailer laying on its side. I could see a man frantically waving his arms as we approached, and a small child sitting on the ground, in the snow.

At first I thought that the driver had just lost control and ended up in the median, but it was much worse. As I pulled over I could see that the left front of the Excursion was badly damaged. All the windows were missing from the vehicle, and the left front window post and roof were pushed down towards the driver's area.

I told my wife to stay in the truck. I've done search-andrescue for the Coast Guard and I'm accustomed to seeing terrible sights. But my wife has never experienced such things, and I didn't want her to experience this one if it could be avoided.

As I walked down to the median, the man came over to me, crying so hard he couldn't speak. He wore socks with no shoes, and appeared uninjured. We walked over to the little girl, and she also wore socks with no shoes, and appeared uninjured. The man was her father, and I had him take her to my truck where it was warm.

I went over to the wrecked Excursion and saw that the driver was a young woman who was unconscious. I could hear a small child crying inside, so I went around to the passenger side. I found a small boy wearing a diaper crying for his mother and trying to reach her over the driver's seat. But he couldn't move because he was pinned between the rear passenger door and the seat.

I couldn't see any blood on the boy, but he appeared to be in pain. His legs were crossed one over the other and wondered if his leg was broken. But I was able to ease one leg over the other and extract the boy from the vehicle. As I turned, I was met by a man who had also stopped. I handed him the boy and directed that he be placed in my truck with the little girl.

After the boy was safe I turned back to the vehicle to search for others who might be injured. I looked in and found an infant boy wrapped in a blanket sitting in a child safety seat. Fortunately, the baby was uninjured and appeared unaffected by the wreck. I gently pulled the baby



Jim Knowles and his wife were the first on the scene at a fatal car accident. (Photo courtesy of St. Paul District)

out, and the driver of a Wal-Mart truck who had stopped took the baby to my truck.

Then I checked on the mother. She was wearing her seatbelt, but was pinned into her seat by the steering wheel. Although there was no sign of injury, she was pale and didn't appear to be breathing. I checked her pulse at the carotid artery in her neck and found none. I knew she was either near death, or had just died.

The father was still without shoes and complained that his feet hurt. I was concerned about frostbite, so I sent him to my truck with his children. But he quickly returned to his wife and began shouting her name, trying to get her to respond. After calling her name several times, the man went to check on his children. Each time my truck door opened, I could hear the cries of the little boy, and I knew my wife was doing her best to console the entire family.

The Wal-Mart driver had called an ambulance. Knowing that I could not help the mother, I had a man who stopped to look for a pair of shoes for the father. Soon the father had shoes and was sitting with his children in my truck. I think he, too, realized that his wife had died, and he knew he needed to be with his children.

Soon after, as we all waited for the ambulance, I went up onto the highway and began directing traffic. On the highway, I could survey the crash scene and noticed there were no skid marks, just tire tracks in the snow that originated in the right lane, crossed the left lane and onto the median. I recalled that the children were in their sleeping clothes and that the father wore no shoes. It appeared that the woman had fallen asleep at the wheel while her family slept, and the SUV left the highway, rolled several times in the space of about 100 feet, and came to rest right side up.

I later learned that the father and little boy were sleeping in the back of the SUV without seatbelts, but that the mother, daughter, and baby boy were wearing seatbelts. I also learned that this family had left Los Angeles the previous day and were attempting to drive straight through to Avon, Colo. Apparently, they drove all night through the same bad weather that we had pulled into Green River to avoid.

When the ambulance and rescue squads arrived and be-

'Sea-dragon' joins water safety program A sea-dragon has joined the U.S. Army Corps of

Engineers water safety program.

Through a generous donation by Kawasaki Motors Corp., the Corps' National Water Safety program has gained a unique tool, a robot called "Seamoor." The robot is designed as a personal watercraft (PWC) operated by a friendly dragon. It was first demonstrated at the International Boating and Water Safety Summit (IBWSS) in Nashville,

The National Water Safety Committee will make Seamoor available to Corps locations for special events through a website calendar for scheduling.

tee is writing a training plan for those wishing to invite him over.

Lynda Nutt. chairperson of the USACE National Wa-Safety ter Committee, accepted the donation on behalf of the Corps. "We're so excited to be the new home for Seamoor," said Nutt. "He's the first watercraft tool like this to be produced. The Corps is proud to be chosen to receive the very first model.'



Linda Nutt, National Water Safety Committee chairperson, and Roger Hagie, Director of Public Affairs at Kawasaki, pose with Seemoor. (Photo courtesy of Nashville District)

Designed and built by Robotronics, Inc., of Sandy, Utah, the robot uses an electrically powered, wheeled platform as the basis for Seamoor's movements. Robotronics also built the "Bobby the Boat" water safety education models.

Kawasaki commissioned Robotronics to build the first example of this PWC-themed robot with the intention of donating it to a boating safety and education campaign that would make the best use of Seamoor's education and outreach potential.

The Corps submitted a proposal to adopt Seamoor for its national boating safety outreach efforts. "The Corps' plan to use Seamoor across America in a visible and effective manner in public boating safety education programs was a compelling idea," said Roger Hagie, Director of Public Affairs at Kawasaki. "Their boating safety and education program will gain a new and slightly unusual dimension by using Seamoor. Kawasaki is fortunate to be able to provide this type of innovative communication tool to the program selected to receive the donation."

Nutt said Seamoor will soon begin promoting awareness of boating and water safety education throughout the Corps.

"Information about boating classes is a key factor in getting people interested in taking a boating class," she said. "Seamoor's appeal to children helps provide a way to raise this awareness of boating and water safety for children and their families.

Mat-layers become bridge-builders

By David Longmire Vicksburg District

A unique partnership between Vicksburg District, the Mississippi Department of Transportation (DOT), and a contractor is saving the state time and money in building a cable-stayed span bridge (a type of suspension bridge). The bridge will cross the Mississippi River from Arkansas to Greenville, Miss.

The district possesses the world's only articulated concrete mat sinking unit, traditionally used to stabilize portions of the Mississippi River from erosion. The proposed project will require the unit to place concrete on the bottom of the river in 60 to 80 feet of water well away from the banks.

"We provided scour protection in the area of two piers that will support the bridge," said Kel Shurden, chief of the revetment section. "These will be the primary supports for the main span of the bridge. It will be the first bridge pier construction job on the Mississippi River where concrete mattresses have been used for scour protection.'

The job will be carried out much like the routine revetment procedure that the mat sinking unit does so well. The unit is known for placing acres of concrete mat per day for less cost than carpeting a home.

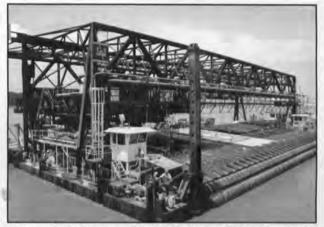
'We used the same concrete mats that we use for river revetments," Shurden said. "These scour protection mats will be placed on the river bed, some 200 to 300feet riverward from the banks.

The scour protection will allow excavation on the river bottom to proceed efficiently. Scouring, the erosion of earth or rock by flowing water, is especially a problem with the strong currents of the Mississippi

"During excavation, the contractor will dig to a certain depth before they reach hard material," he said. "The mat will prevent the area next to the excavation from scouring during construction of the two piers.

Harry Lee James, bridge engineer for the Mississippi Department of Transportation, said laying the mattresses is essential before work can begin on sinking the caissons for the pylon piers.

"The dredged caissons are like eight-story buildings being driven into the river bottom," he said. "They





The mat-sinking unit in Vicksburg District usually places concrete mattresses to prevent erosion along the banks of the Mississippi River. But they recently placed mats in 70 feet of water to protect the piers of a new bridge. (Photos from the Digital Visual Library)

create tremendous water velocities, and the mattresses must hold the soil in place during this time.'

The initial work will begin in January or February and will last six months before they hit bottom. The dredged caissons and tower construction will take a total of 18 months. One pier will be 200-to-300 feet from the Mississippi side of the river, while the other will be the same distance from the Arkansas side.

The Corps' role consisted of laying 3,500 to 4,000 squares of concrete revetment mat during a period of a few days. The revetment process involves moving 16block sections of mat from a supply barge by overhead cranes to the mat boat, where the sections are tied together and connected to 3/8-inch launching cables.

The concrete mattresses consist of four-foot by 25foot sections or squares, tied together with 35 other squares, which are picked up to form a launch. A typical mat blanket consists of 12 to 24 launches. The concrete revetment mattresses are 325 feet wide by 425 feet

The original construction plan called for scour protection with willow or lumber mats. The state DOT team, including the contractors, Massman-Traylor of Kansas City, Mo., and Evansville, Ind., sought advice from the Corps at the suggestion of the Association of General Contractors.

Dennis Norris, Corps river operations branch chief in Vicksburg, said the Corps has used concrete mattresses for its revetment work for 40 years. "Willow and lumber mats were used years ago, and they were not very efficient," he said.

'It took us three to four days to complete the work, compared to a minimum of about two months using other methods, and time is money," said Shurden.

Dick Hall, Mississippi Transportation Commissioner, said about \$400,000 to \$500,000 in proposed expenses will be saved. In addition, reducing worker exposure to river conditions would increase their safety. The concrete mattresses will provide longer-term service than willow or lumber.

'It's a win-win situation," Hall said. "When you have a federal agency, a state agency, and a private contractor working out such a unique project in a very short time, it's quite an accomplishment.

The first meeting by the three agencies was Nov. 1.

By mid-December, the work was complete.

"It's been a good effort," Hall said. "This will be a milestone and an accomplishment for all of us."

The main span of the cable-stayed bridge will be 1,378 feet long, and is scheduled for completion in 2005.

(David Longmire is a contract writer for Vicksburg

Mat-sinking unit has superb safety program

David Longmire Vicksburg District

Vicksburg District's mat-sinking unit has earned an excellent reputation for efficiently performing their often-hazardous duty on the Mississippi River. Now the sinking unit is also known for its perfect safety record while performing those duties.

Kel Shurden, chief of the revetment section, said the MSU has had no accidents or lost work time in the past

"That's truly amazing, especially since the mat sinking unit is the largest hired labor force in the entire Corps of Engineers," Shurden said.

Duane Laird, chief of the mat-sinking unit, said the unit works with a great deal of heavy equipment. "We're a floating construction unit." He added that work sites of that nature are a haven for "accidents that are ready to happen, but we take safety very seriously.'

The unit won recognition for its safety record from

Command Sgt. Maj. Robert Dils, who presented a plaque and safety coins during a recent ceremony. Dils said the Corps has the best safety record of any Army major commands, and the mat sinking unit is "a shining example" within its ranks of how that is achieved.

The entire MSU crew also viewed a special video from Lt. Gen. Robert Flowers, Chief of Engineers. Flowers commended the unit for their safety program.

Shurden attributes the excellent safety record of the crew to safety education, the buddy system of watching out for each other, and the safety award program, which offers monetary awards for each work group which has

"Everybody looks after everybody else," Shurden said. "They're all committed and set forth a great effort. In the safety business, people tend to want to take short cuts, which create a greater potential for accidents. No short cuts are taken here. That takes a significant contribution from everybody involved."

Shurden said the monetary incentive awards are given during the first half and last half of the revetment season. The awards vary from \$50 to \$250 per person, depending on the hazard level of the jobs.

Another safety program is called STOP, where workers fill out cards and turn them in if they notice anything that appears to be hazardous. "This brings it to our attention to be resolved," Shurden said.

(David Longmire is a contract writer for Vicksburg District.)

Accident

Continued from previous page

gan treating the family, my wife and I left the scene and continued back to Wisconsin. Needless to say, the remaining trip was difficult for both of us. The thoughts of what occurred kept returning, and I soon found myself asking why this had happened. Why did they drive through the night instead of getting a hotel? Where were they from? Where were they going? Why were they driving so fast? Would a slower speed have made a difference? Why didn't the airbag deploy in the brand-new SUV? Why did some drivers stop to assist and others did not?

I was glad the children were unharmed, that the parents chose a quality child safety seat for the infant, and that the little girl wore a seatbelt. It was luck that the father and little boy were essentially unharmed, given they were asleep in the back of the SUV and not wearing seatbelts.

There are some simple lessons to be learned from this

 Always drive safely, under the speed limit, and even slower if weather conditions require.

 Plan your trip carefully. Good trip planning doesn't start when you jump in the car. For us it began at least a week before our trip to California, was an ongoing process while traveling, and didn't end until we parked our truck in the garage at the end of the trip.

• Don't drive while exhausted. Pull off the road and

When the weather gets bad, pull off and sit it out.

 Always wear seatbelts, and put infants in quality child safety seats.

Committees tackle Vision challenge

By Paul Seguin Headquarters

The U.S. Army Corps of Engineers, the world's largest public engineering organization, provides indispensable services to the Army and the nation.

Because of our unique funding and policy direction, our senior leadership has often focused its attention on individual programs and projects, treating them as distinct and separate challenges

But today we are attempting to also focus the organization on corporate challenges that cross program and project boundaries. Emphasis on both individual programs and corporate issues will be needed to thrive in this fast-paced, ever-changing world.

To this end, in March 2001, Headquarters published a refreshed version of the USACE Vision, and a Campaign Plan that identifies avenues to pursue in achieving the refreshed Vision.

At the Senior Leaders Conference last August, a new strategic process was adopted to achieve the Vision and address other strategic issues.

This new strategic process includes a USACE Command Council that is redirected and strengthened from its predecessor, the Board of Directors. Headed by the Commanding General, Lt. Gen. Robert Flowers, the Command Council serves as the guiding corporate body of USACE.

The Command Council meets quarterly, and is made up of all of the Corps' general officers, Center Commanders/Directors, and six Senior Executive Service members from Headquarters and the divisions.

The Command Council works through several subordinate committees, including those specifically addressing People, Process, and Communication, the three strategic goal areas in the USACE Vision. These committees (six-to-12 members each, with top-level Headquarters, division, district, and center participation) identify, develop, focus, and integrate initiatives in their particular areas, for consideration and approval of the Command Council.

As reported previously in the May 2001 issue of Engineer Update, our Strategic Vision for USACE, and the objectives, strategies, and actions of our Corporate Campaign Plan, are a "blueprint" for transforming the

In the months ahead, each committee will describe their purpose and activities, inviting suggestions and comments from the Corps workforce.

Our series begins with a description of the People Committee and Learning Advisory Board.

People

Corps workforce has 'caring, character, heart'

By Michael Kingsley Headquarters

"If you want to know the character of the Corps, look to New York District caring, character, heart.'

In this statement at the New York District town hall meeting on Dec. 21, Lt. Gen. Robert Flowers, Chief of Engineers, summarized what he has found true about all Corps people. They demonstrate "caring, character, heart" every day, as our Strategic Vision states — Serving the Army and the Nation. And this ethic has created the Corps' rich legacy of service.

Our world faces rapid changes - shifting political and international alliances, increased global business competition, more diverse work, multi-stakeholder demands, increased scrutiny from outside the Corps, baby-boomer retirements, shift in focus of national needs, natural disasters, terrorism, and more. With these changes have come increased demands to transform the Corps to better serve the changing needs of the Army and the na-

"My intent is to have a world-class workforce that is prepared to meet our future challenges."

USACE Campaign Plan

Flowers chartered the People Committee to accomplish the objectives of the USACE Campaign Plan — to develop, focus, integrate, propose, and evaluate new and ongoing corporate initiatives to maintain, enhance, and empower our worldclass workforce. A Senior Executive Service (SES) Career Program Manager, Linda Garvin, Director of Real Estate, chairs the committee. The committee members are:

- Dr. Susan Duncan, Director of Human Resources.
- Kristine Allaman, an SES from the Directorate of Military Programs.
- Dr. Michael O'Connor, Director of the Geotechnical Structures Laboratory.
- Frank Oliva, an SES member from Pacific Ocean Division.
- Steve Browning, an SES member from South Pacific Division.
- Col. Robert Suthard, commander of

I provide support and strategic consultation to the People Committee.

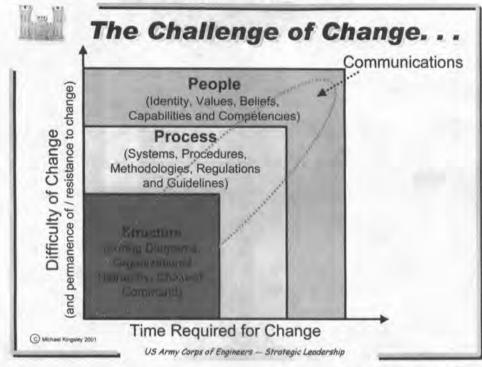
The People Committee also added several emerging leaders to obtain their perspective and to champion certain initiatives. They are:

- Joyce Gebhardt, Headquarters.
- Christina Baysinger, Headquarters.
- Cynthia Kitchens, Tulsa District.
- Jan Gonzales, Pittsburgh District.

"People are the foundation of the Corps: our effectiveness, our value, our reputation."

USACE Campaign Plan

The most daunting challenge of any transformation is the "people" part. As the "Challenge of Change" chart notes, the easiest, quickest change most organi-



zations make is in structure. After that, the next areas changed are systems, processes, and procedures to change how we do things.

But the most difficult area of change is people. Our identity, values, beliefs, perspectives, and opinions must change. This area is the most resistant to change, but yields the most long-lasting benefits. This is the area of real transformation. Almost every change effort stalls here because of the difficulty in changing people, even when we want to change.

But we must change. Our workforce faces one of those transitions that occurs rarely, but provides a dramatic opportunity. About 35 percent of our people will be retirement-eligible in the next five years. It is critical that our current workforce prepare for this transformation, and that the Corps recruit and develop people who embrace the transformation projected by our Vision and Campaign Plan. Further, we must retain as much current expertise as possible.

The People Committee recognizes this opportunity and embraces it with commitment to action.

"Our people will know our leaders" strong commitment through the actions we will take."

USACE Campaign Plan

The People Committee is responsible for implementing the People Section of the USACE Campaign Plan. In addition, the USACE Learning Advisory Board (LAB), in partnership with the People Committee, is championing several initiatives. The LAB is also composed of general officers, senior executives, senior managers, and emerging leaders. Their mission is to develop a culture of learning and empowerment. (See accompanying article.)

Objectives and initiatives

"We must maintain a reputation with our current and future workforce as a great place to work and grow as individuals."

USACE Campaign Plan

The objectives of the People section of the USACE Campaign Plan are:

- Attract and retain a world-class work force (People Committee).
- · Create a culture of learning and empowerment (LAB).
- Develop leaders at all levels (People Committee and LAB).

The initiatives of the People Committee and the LAB are complementary and cannot be accomplished without coordinating, integrating, and building on each other's efforts. Let's take a closer look at each of the People Committee initiatives. (See article on next page about the LAB.)

Attract and retain a worldclass work force

"We are the public engineering employer of choice!"

USACE Campaign Plan

Fundamental to all initiatives is knowing what we work toward. The Competencies and Capabilities Assessment initiative will give us knowledge of what we need today but, more important, what we must build toward. There are many ongoing actions (Registry of Skills, Mission Essential Task Lists, Capable Workforce Initiatives) to assess the current capabilities and future needs of our workforce.

One people initiative is to integrate these activities so that we may develop future corporate competencies, and not develop solely what is needed today. This will impact all other people initiatives and actions such as our future recruitment, training, and development programs.

The People Committee is also working closely with Human Resources to keep upto-date on legislative changes, and to develop a coaching and mentoring hand-

Continued on next page

Corps becomes learning organization

By Fran Nurthern and Richard Margolies Headquarters

The U.S. Army Corps of Engineers has begun a journey to transform into a Learning Organization. The USACE Vision with its focus on People, Process, and Communications recognizes that the Corps has entered a new historical and social context. The Corps' role is challenged by increased competition for business in a global economy, and increased scrutiny.

Examples of how our work and organization are changing include:

Increasing protection of the environment.

Fewer mega-projects.

More multi-stakeholder planning and collaboration.

More diverse kinds of work.

A faster pace of work.

Continual change.

At the same time, we face workforce challenges:

 New skills, thinking, and systems needed for a knowledge-based organization.

 Workforce mobility, causing us to lose experience and mid-level managers.

More competition for young talent.

Junior employees seeking continual learning.

The Corps has advanced from the time when we could manufacture large projects and we determined quality and process. Today we are in the complex, chaotic world of the knowledge and service economy which awards success to those who learn quickly.

Continuous learning

These changes require changing our stovepipes of program-specific experts into cross-functional project management teams. We can no longer mass-produce standard products; we must customize to assist our clients' longterm strategy. This new logic requires interactive teamwork, strategic alliances, knowledge integration, and coproducing solutions with our clients. This requires continual strategic, operational, and technical learning. The more this is the standard way of working, the more we are a learning organization.

The Corps must continually learn from our experience of what does and does not work. A non-threatening, enabling leadership will keep us focused on continually developing our organizational competence. The goal of technical and operational learning is to align all elements of the Corp's culture with this ideal future.

USACE is strengthening and formalizing this learning culture. Thousands of employees and teams around the Corps are learning every day. The challenge for leadership is to focus these individual, fragmented lessons so the organization as a whole learns and gets better and better.

Executive leaders must align organizational strategy with this new learning. Operational learning feeds back to the strategic level and is used to explore new opportunities. This dialog helps develop a learning-driven plan to transform the culture of USACE and align all sys-

tems, measurements, values, structures, Service source planning, and so on.

Learning Advisory Board

The Learning Advisory Board (LAB) is assisting the Chief of Engineers and senior leaders in this long-term transformation. The LAB is composed of general officers, senior executives, senior managers, and emerging leaders from across the Corps.

The LAB is also creating USACE University, a learning network, with schools of technical excellence, business, and leadership. The university is not a place, nor is the Corps getting into the educa-

tion business. It is a way to leverage learning, seek new learning methods, and provide training and education more efficiently through new technologies. We recognize, however, that excellent training alone does not make a learning organization. There will be more about the USACE University in future issues of the Engineer Update.

Next Steps

Creating a learning culture begins with a common understanding of the doctrine that describes the learning culture. The LAB's draft learning culture doctrine will be discussed with the Commander's Command Council in March, and at ENFORCE in April. It will be published by the Senior Leadership Conference this summer, which is devoted to "Leadership for Learning."

Creating an agile organization that readily learns from its past and present will ensure the Corps continues to thrive in the uncertain future. The Corps will continue to invest in learning, an attribute that will always attract and retain talent in the ranks and empower our effectiveness. When we make learning a part of our work process, our meetings, and what our leaders at all levels do to transform the Corps, only then will we create our ideal future.

The members of the LAB are:

Army and

Brig. Gen. Peter Madsen, Commander, South Atlantic Division (co-chair).

Dr. Susan Duncan, Director of Human Resources

Brig. Gen. David Melcher, Commander, Southwest Division.

Brig. Gen. Steve Rhoades, Commander, North Atlantic Division.

Don Basham, Director of Planning and Program Management, Mississippi Valley Division.

Dwight Beranek, Director of Engineering and Construction, Headquarters.

Debra Brey, emerging leader, Omaha District.

William Brown, Deputy Director of Military Programs, Head-

Steve Browning, Director of Programs and Project Management, South Pacific Division.

CORPS OF ENGINES Dwight Burns, Director of Military and Technical Programs, Northwestern Division.

Fred Caver, Director of Program Management, Head-

Jim Crews, Director of Military and Technical Programs, South Atlantic Division.

Linda Garvin, Director of Real Estate, Headquarters. Dr. Ed Link, Director of Research and Development,

Neal Newman, emerging leader, Memphis District. Frank Oliva, Director of Civil Works and Technical Directorate, Pacific Ocean Division.

Terry Patton, emerging leader, Huntsville Center. Paul Robinson, Director of Military and Technical Programs, Great Lakes and Ohio River Division.

Bill Dawson, Director of Programs Management, Southwestern Division.

(Richard Margolies is a contract writer for Headquarters.)

People

Continued from previous page

Develop leaders at all levels

"We must leverage Emerging Leader talent."

LAB presentation to the Command Council

A group of emerging leaders recently assembled a matrix of all division and district Leadership Development Programs (LDPs). The matrix attempts to identify all the LDPs across the Corps to share and learn from each other. For the first time, the Corps has a perspective of all LDPs to plan, develop, and better manage corporate leadership development.

The matrix will be a foundation for other People/Leader initiatives. The LAB will, in the future, review all LDPs to ensure common understanding of the Corps' to-be-developed leadership doctrine.

The Corps-wide Emerging Leaders (EL) Program has existed for more than 10 years. It has produced a cadre of "graduates" who recently formed coalitions to participate with Corps senior leaders in campaign plan initiatives.

Improving the EL program is one initiative. An emerging leaders webpage is scheduled to be unveiled this spring. It will provide a central location for past, present, and future ELers to connect, and offer beneficial information about the EL program for interested Corps members.

Soon, ELers will receive a survey developed by a small virtual EL team assembled from around the world. The survey will assess the effectiveness of the Emerging Leaders Program in enhancing participants' career and professional development. The survey will also discern how well Headquarters and subordinate offices throughout the Corps tap into ELers as a resource. The survey also solicits ELers' ideas for implementing the

Survey results will determine if program elements need to be modified or eliminated, develop retention and development strategies, and coach and mentor supervisors, managers, and team leaders in people development.

Another virtual EL team is researching issues to recommend retention and development strategies to the Command Council. Another group, the Command Council Liaison Team (ELers supporting Command Council members) is exploring mentoring and coaching programs, gathering information about competencies and capabilities assessments throughout the Corps, and exploring recruitment methods and strategies.

"We must be the change we wish to see..."

Mohandas Gandhi

Many groups, teams, and committees develop lists of initiatives and actions. Most never get implemented because they have no implementation plans. But our strategic committees recognize this opportunity for change, and are dedicated to following one of the most profound culture changes in the Corps (the Project Management Business Process). They have agreed to develop program and project management plans (PMPs) for their initiatives.

This will have profound effect on how initiatives are approved and funded.

The People Committee PMP is in its first draft, and PMPs for ongoing actions, associated deadlines, and resource requirements are being developed for each major people initiative.

These PMPs are the action plans for change and will assure that we are "being the change," i.e., taking action and not just talking. In future action, we will develop a long-term "Strategic People Plan," and metrics (ways of measuring success) to assure progress toward our Vision and our legacy for the future.

"...when we do the right things and do them right, we become extremely powerful because we are aligned, personally and professionally, ... knowing in our heart-of-hearts that we're serving the public good, and are proud to be a part of the U.S. Army Corps of Engineers."

Lt. Gen. Robert Flowers, Chief of Engineers, at the Army Management Staff College, June 2001

Korea

Far East District offers challenge and the adventure of a lifetime

Col. Greg Kuhr Far East District

Are you interested in an exciting adventure that would challenge your professional abilities, advance your technical skills, and give you and your family an adventure of a lifetime? Consider applying for a position with Far East District.

When many people hear the word "Korea," they think about those old war movies showing a war-ravaged country where most people live in poverty. They have images of an undeveloped country that uses crude construction techniques and builds only simple temporary structures for an Army constantly preparing for war.

Modern Korea

Maybe that was true 50 years ago, but nothing could be farther from the truth today.

Korea is a modern Asian country with an economy ranked in the top 10 in the world. They build world-class structures, such as a bullet train system, Asia's most modern international airport, first-class office buildings, 10 new soccer stadiums for the 2002 World Cup, and many others.

Sixty percent of Koreans carry cell phones. More than 55 percent rely on the Internet for communications and information.

Korean companies such as Samsung, Hyundai, LG, and Daewoo are world leaders in computer systems and information technology research and development. Korea has more than 40 million people living in a country about the size of Indiana, and construction cranes overlooking new high-rise apartments and offices are plentiful.

Far East District

Far East District (FED) is located in downtown Seoul, the capitol of Korea and its most populous city. FED executes a purely military program that is robust and growing. With more than 400 employees last year, FED executed \$430 million in construction and more than \$50 million in design work.

Half of FED's employees are Korean nationals who consider the district their second family. Korean cultural traits such as hard work and pride in producing quality projects make them the backbone of FED.

The other half of the FED work forces are U.S. civilians who choose to experience life and work in Korea. Like other Corps' employees, they are professionals who enjoy making a difference everyday in the lives of U.S. servicemembers assigned to Korea.

The contribution that FED makes is keenly felt during ribbon-cutting ceremonies for new barracks, dining facilities, physical fitness centers, medical facilities, new high-rise family housing projects, motor pools, runways, and many other facilities, all part of our robust military construction, non-appropriated fund, and operations and maintenance programs. Military commanders throughout the peninsula frequently recognize our civilian workforce for their dedication and commitment to the military's needs.

Projects

FED is challenged with a wide variety of projects. For example:

 An \$80 million hospital renovation which is phased to allow continuous operation throughout construction.

 A \$400 million high-rise apartment construction program to provide world-class living accommodations for more than 1,000 military and civilian families in Seoul.

• A \$600 million lease construction program that will provide 1,500 high-rise family apartments and all supporting facilities (schools, gyms, AAFES stores, etc.)



Far East District is the only district with in-house well-drilling teams. (Photo courtesy of Far East District)

through a long-term lease.

• A \$22 million Combined Arms Collective Training Facility designed as a mock Korean city where 2nd Infantry Division soldiers will conduct urban training.

 An Air Force barracks construction and renovation program worth \$150 million annually.

• A \$1 million master planning effort for all Eighth Army installations, using the latest master planning techniques and GIS systems. This supports an initiative by Gen. Thomas Schwartz, commander of U.S. forces in Korea, to return more than 25 installations to the Korean government and consolidate all U.S. units into six major permanent complexes or "hubs."

Additionally, FED aims to provide world-class engineering and construction management services through several internal initiatives. Let me give you examples of how we are continually improving:

Engineering Division, which conducts more than 20 percent of the design workload, uses the latest computer-aided design systems. FED takes pride in having the lowest planning and design costs in the Corps.

Engineering Division has also reduced building footprints by deviating from standard designs to create more vertical and multi-functional structures. Examples include a combined Physical Fitness Center/Community Activity Center, eight-story barracks, and future multilevel motor pools. They are also developing a Koreawide Installation Design Guide which will incorporate the latest Sustainable Development and Design concepts.

Programs and Project Management Division (PPMD) has developed a web-based Project Management Business Process (PMBP) manual, which assists all new project managers (PM) to quickly understand a PM's coordination and administrative requirements. This includes a computer program to generate a resource plan for all projects, enabling PMs to plan and manage their project funds. PPMD has also fully instituted a successful design charrette program for all major projects.

Construction Division continues to improve their processes with the full integration of RMS, SPS, CEFMS, and PROMIS. Consisting of one area office and six resident offices, FED may also be the only district in the



Korea is rich in cultural heritage, like Popchu Temple at Mount Sokri. (Photo courtesy of Far East District)

Corps where the resident engineers teach construction quality management classes to our contractors. They are fully supported by the district's Safety Office, which holds quarterly safety classes for our contractors, resulting in an outstanding safety record.

ISO 9001

The entire district has committed to certifying PMBP through ISO 9001. By March we will complete our ISO Quality Management System (QMS) document. This will begin a nine-month internal review and auditing process to ensure our QMS accurately portrays our processes and continuous improvement systems.

Soon FED will join the ranks of many Korean contractors who have received ISO certification as a demonstration of their commitment to quality, consistency, and continuous improvement.

Living in Korea

On the personal side, like any foreign country, expect Korea to be different. You will not receive locality pay, but your housing costs will be fully paid. The DoD schools in Korea are considered some of the best, with several high school graduates receiving college scholarships every year.

Civilian employees have access to the military commissaries and post exchanges, although some find shopping in the Korean markets cheaper and better. If you have children in college, they are authorized a free trip to visit you every year. Also, most employees take low-cost tours to China, Thailand, Guam, Vietnam, Japan, Hong Kong, and other Asian countries.

Moving to Korea and settling into a routine will not be all roses, but a tour can provide memories for a lifetime.

For more information, visit the FED webpage www.pofusace.army.mil and enjoy the video. If you are interested, e-mail the chief of any of our offices for more information.

(Col. Greg Kuhr is the commander and district engineer of Far East District.)





The new housing at Offutt Air Force Base (left) is a big improvement over the old. (Photos courtesy of Omaha District)

Offutt AFB gets new family housing

By Sheri Hronek Omaha District

Military family housing at Offhutt Air Force Base, Neb., took a major step recently with the ribbon cutting for 82 new two-bedroom homes. This ended Phase I of a two-phase project.

The prototype design and atypical building approach offer advantages both to those who will live in the structures and to the Air Force. Omaha District has worked with the Air Force and designer/contractor on creating this new model. The second phase, which is about 50 percent complete, includes 72 three-bedroom units.

"We've managed this housing project for Offutt, and it's really been a good project for us," said John Stobbe, program manager. "The ribbon-cutting signals the completion of the first phase of a two-year, \$23.7-million construction project that used a design/build contract. The first residents, some of whom have already moved in, are pleased with their new homes."

The new townhouses are models for future housing improvements in the military, said Kevin Pace, project manager. The Bush administration's plans call for modernizing the military, including housing, and the fiscal year 2002 budget calls for \$400 million to build or refurbish military housing throughout the U.S. If the budget is approved, Omaha District's work would potentially include future projects at Offutt, Ellsworth, and Minot Air Force bases.

Design/build

Sacramento District issued the Request for Proposal (RFP) for the design/build project. The district handles all family housing contracts. The contract was issued to Caddell Construction, of Montgomery, Ala. Meyer-Gehricke Architecture and Planning of Fresno, Calif., was the designer.

Design/build is a services delivery method. A project is contracted with one entity that provides both design and construction services. That entity may be a single firm, a joint venture, or a consortium. Through design/build, construction expertise is included in the design process.

The RFP delineates requirements, and the project does not follow the traditional approach of design, specifications, and contractor bid.

"We've had a really good Corps team; the project has been challenging," said Jennifer Young, project engineer. "In the design/build process, we've followed the Uniform Building Code instead of the traditional Corps specifications. The Air Combat Command has worked with Sacramento District to have them prepare all the RFPs on family housing on the site-built projects, so it was advertised and awarded by Sacramento District and built with Omaha District oversight. We were involved in the design but, after the RFP was issued, we reviewed it with Sacramento."

"We've been very satisfied with the quality of work Caddell has done, as well as the Corps, to complete this project," said Mike Huntley, project architect for Offutt Base Engineering. "Design/build was a new process for the Air Force. It was something our Headquarters asked us to partake in. At first we were a little reluctant because we'd never done a design/build before, but we're pleased with how it has turned out."

Huntley noted that they have been partnering with the contractor and the Corps from the beginning. "I think that's been part of the success of the project," he said. "There were some things we had to work out in terms of the weather and stuff like that, but all-in-all the Air Force is pleased with the end product. We have a good quality contractor that worked hard to ensure that quality wasn't sacrificed in trying to beat the schedule."

Doysa Whitaker, Corps construction representative, said he was familiar with the traditional construction method of having design and specs and working from them. "I had to get used to the design/build from an RFP. There were some delays early on, but for the most part, the project worked really well."

Whitaker noted that there was a lot of detail in building the units. "The unique architectural features of the buildings required skilled tradesmen. You couldn't have someone who was kinda inexperienced and have them build according to the design that was in the contract."

Exciting move

"The housing is for junior enlisted members; brand new houses for young naval and military. They're really excited about moving up," Huntley said. The first group moved in the last two weekends of June. "They all seem to be excited about moving into some new housing."

The new housing replaces some existing Wherry housing on the base. For the first phase, 56 units were demolished; 88 for the second. The Wherry housing is located on the north side of the base; most are six-, eight- or nineplex two-story units.

"People are really excited about moving in to the new units," Pace said. "These are nice-looking. They have some gable roofs that really look like a house, instead of an apartment complex." The houses are partially furnished. "They want people to enjoy themselves and feel part of a family, as opposed to not having anything to look forward to."

"The Wherry houses had 50 years of people moving in

and out," said Huntley. "The decision was made quite a few years ago to replace our Wherry housing, and this is the first part of that process. Whoever does it—the Air Force, the Corps or a private developer—our long-range goal for Offutt is to replace all Wherry housing."

Each house has its own yard. "And each has a garage; the old Wherry housing didn't," Huntley said. "They have a lot of interior storage. It's just a well-laid-out plan for young families. And you can see the sense of ownership; I've gone up the street where we've moved people in, and you can see the pride of ownership that they probably didn't have in the old Wherry housing."

The two-bedroom townhouses are about 950 square feet, and the three-bedrooms townhouses are 1,200 square feet. Four townhouses in each phase are handicapped accessible.

Siting

"This process is more than just homes," Huntley said.
"It's recreation areas and walking paths. We're trying to
develop a residential community similar to the private
sector. Even though it's on the base, it really does have
the flavor of something you'd see downtown. You drive
up there, and you don't realize you're in military family
housing."

Although some existing housing was demolished, additional land was used for the new housing. "The land has never been touched, so we had to bring in utilities and everything," said Pace. "Usually we have to tear down and replace on the existing site. But this was new for both phases." A total of 120 acres was involved.

According to Young, the site was initially "pretty challenging. It was one big hill, so there was a lot of earth work to have reasonably flat yards, and we're still trying to establish ground cover on some of the slopes. We had to do all the site utilities, and we had to deal with what you have in any demolition project, such as asbestos and other environmental concerns."

Future housing

The prototype has been developed, and federal plans other bases to decide if they would like to use this new model, and for the government to decide which methods will be used to build them.

"I think every comment from someone who's come through, they were pleased with what they saw and felt this was a project the Air Force could be proud of, and maybe a prototype for other places as well," Huntley said. Still to be determined is whether privatization will again be a factor in building housing at Offutt.

Former employee wrote Olympic song

By John Reed Pittsburgh District

The songwriting talent of a former U.S. Army Corps of Engineers employee will be on display at the Winter Olympics. Karin Hendrickson, a Corps student employee, first recorded her song "Carry the Flame" in 2000 between her duties of repairing campsite fire rings and assisting in repairs of campground restrooms.

Her inspiring song came to the attention of the Olympic Committee, which adopted it as the theme for the nationwide torch carry. Aretha Franklin's version of Hendrickson's work has been heard across the nation, and will be beamed worldwide as part of the opening

ceremonies at Salt Lake City.

"I wrote the chorus when I was a high school junior," said the former Corps employee. "It was during the 1994 Winter Olympics, and I was especially inspired by the U.S. figure skaters Paul Wylie and Nancy Kerrigan. I didn't think anything of it at the time. I just got the feelings I had out onto a piece of paper, put it in a folder of 'sketches,' and walked away from it for the next six years.'

By the summer of 2000, Hendrickson had written other songs while supporting her college studies through three years of summer jobs at Shenango River Lake in Pittsburgh District. She invested some of her savings in studio time to record a demo CD of several original compositions with local musicians.

When she started selecting material for the recording session, she decided the six-year-old unfinished chorus was worth completing and she knew who she wanted to sing the demo, former classmate Christa Panin.

"I had heard her sing many times and played a duet with her at her senior piano recital," said Hendrickson. "Her style of singing is strong and soulful and I attribute much of the initial impact of the song on the Olympic Committee to her abilities."

Hendrickson submitted the song unsolicited to the Salt Lake Organizing Committee. She sent each member a cover letter, a taped copy of the song, and a lyric sheet. The members referred it to the organization's Creative

That was in September 2000. Last May, Hendrickson received word her song was selected for the torch relay and that a production company had been hired to cut the original eight-minute song to make it acceptable for radio play. Since Hendrickson was leaving that September to study for a term at Oxford University in England, she wasn't on hand to collaborate on the editing.

"Much of the song that remains is what I originally submitted, so this makes me happy," said Hendrickson. "It's a scary thing to know your name is going to be associated with something, but you're a little removed from

the final say of the finished product."

Hendrickson, now a master's candidate in instrumental conducting at George Mason University, Fairfax, Va., said she feels a lot of the message of her song stemmed from her years of playing sports. Music and athletics have been twin themes in Hendrickson's life since she was three and started piano lessons. Besides four months of research and study at Oxford, England, and recording her own demo CD, she has conducted at the prestigious Spoletto Festival in Charleston, S.C.

At 8, she became involved in organized athletics including tennis, baseball, and basketball. She earned two high school basketball conference Most Valuable Player (MVP) awards, led her college basketball team in rebounding four straight years, made MVP in her college conference her senior year, and tried out for a WNBA team.

"It was hard to let basketball go," said Hendrickson. "Much of this song comes from me sitting down and coming to terms with giving it up. I realized, though, that even if I wasn't a superstar basketball player, I could still

inspire other people.

Although Hendrickson's career path is not likely to bring her back into the Corps family, she usually makes time whenever she is home visiting her family to also visit her friends at Shenango River Lake. She worked at the lake for three summers with the maintenance crew



Karin Hendrickson wrote the song heard as the Olympic torch traveled across the U.S. (Photo courtesy of Pittsburgh District)

while attending nearby Grove City College where she majored in business and music.

"The Corps environment is great team-oriented training for decision-making and multi-tasking," Hendrickson said. "I enjoyed the time I spent there during my summers. I could most likely build my own house as a result of the skills I acquired on the job!"

"Karin performed her assignments with enthusiasm and an eagerness to learn new skills," said Richard Hetrick, Shenango maintenance leader. "She had a superb work ethic and would complete an assignment and move on to something else, working independently in the absence of other instructions.



Garry Mick, an Omaha District retiree, carried the Olympic torch through downtown Omaha. (Photo by Tom O'Hara, Omaha District)

"In the 24 summers I've worked at Shenango, I've seen scores of young people come and go while they worked their way through school or prepared themselves for other opportunities," Hetrick said. "Karin stands out as one of the few who made a lasting and positive impression."

Hendrickson will travel from her home in New Wilmington, Penn., to Salt Lake City as a guest of the

Winter Olympics Committee.

"By finishing that song, I realized that I still had opportunities to inspire people," said Hendrickson. "Through music, yes, but every day when I get out of bed, I have a whole day to make something good happen, and it's up to

Corps man carries torch

Article by Kathryn Haferkamp Photo by Dee Dedman Fort Worth District

Have you ever dreamed of being in the Olympics? David Madden has, and his dream came close to coming true Dec. 12 when he escorted the Olympic torch into the Dallas/Fort Worth area.

Madden, a project manager in Regulatory Branch, was one of 4,300 support runners to accompany four of the 11,500 torchbearers in the Olympic Torch Relay which started in Atlanta, Ga., last Dec. 4.

The torch will reach the site of the 2002 Winter Olympics in Salt Lake City on Feb. 8, after traveling 13,500 miles across 46 states.

As a support runner in the relay, Madden served as a guardian of the flame and assisted the torchbearers while the relay was underway. He was offered the chance to carry the flame on the third leg of his relay segment. With much enthusiasm, Madden gladly accepted.

"I was mostly a cheerleader for the torchbearers and motivated the spectators along the route," said Madden. "But when I was asked if I wanted to carry the torch, I wasn't going to pass up the opportunity. It was exciting to experience this once-in-a-lifetime event.'

Madden ran with four torchbearers, each responsible for carrying the torch for two-tenths of a mile.

'It was a great experience, not just running with the torch, but also the fellowship and the chance to meet some unique people and to hear their stories," Madden said. 'Many were selected by being an inspiration in their community and others for overcoming significant obstacles in their lives.'

Madden isn't your typical celebrity. He is a family man whose positive and caring attitude is reflected in all



David Madden carried the Olympic torch in Atlanta. (Photo courtesy of Fort Worth District)

aspects of his life, which may explain why Janet Rasher, a close family friend, nominated him to be a support runner. Rasher submitted the form from the back of a cereal box. In August, he received a notice that he was nominated, but when his running suit arrived he finally got

Woman works hard for better life

Article and Photo By Thomas O'Hara Omaha District

Danielle Talkington has overheard the comments. She's felt the stares and seen the sideways looks. She has spent her life living with the scars of mental illness.

"I'm not ashamed," said Talkington, a chemist with Omaha District. She first became ill at 19, and wasn't correctly diagnosed with bipolar disorder (manic/depressive) until 30. "It's an illness. People don't make diabetes jokes, or cancer jokes. But for some reason the mentally ill are fair game."

Talkington's struggle is not unique, but her survival is. Of three in her family diagnosed with mental illness, she is the only one still alive.

Fractured family. Talkington is a secondgeneration Omaha District employee. Her parents, Marjorie and Doug Lakin, met in the mid-1950s in Pierre, S.D., during construction of the Oahe Dam. Marjorie was a chemical engineer and construction representative. Her father, a mining engineer, served with the excavation and survey crews.

They married, and with Marjorie's two children from a previous marriage soon began their family together. Danielle and her older twin sister, Michelle, were born in 1956. Stephanie, Doug, Chris, and Mary followed. Finally her little brother Nicholas was born in early 1962.

But tragedy soon struck.

In 1964, Nicholas died of bronchitis. "It was hard," said Talkington. "Nicky's death put a strain on their relationship and I think helped bring about my parents' split."

Talkington has vague memories of her father battling "some sort of illness" when she was younger. She believes that once he separated from the family and lost their support, his life unraveled. "He never really recovered after that."

Talkington's mother served in Omaha District until 1983, and is now in the district's Gallery of Distinguished Employees. But her father followed a darker path.

"Dad had been diagnosed with schizophrenia and he had a tough time working," says Talkington. "His illness qualified him for disability and he bounced around from job-to-job."

Two of three. Talkington heard the comments about her father and began questioning her own health. The struggle became real when she was diagnosed schizophrenic at 19. She was not alone. Her twin sister had depression.

"I started getting those looks and awful comments," said Talkington. While others snickered about "the apple not falling too far from the tree," she questioned her doctors. "When they talked about the illness and the symptoms, I kept saying 'That's not me!' I didn't want to accept the illness because I didn't want the stigma of the



Danielle Talkington has learned to smile despite the tragedy that mental illness has brought to her life.

illness. I didn't want to accept help because of all the things I heard about my father.

Talkington saw her life unraveling, and images of her father's struggles were never far from her thoughts. "I kept changing doctors," said Talkington. "Finally some-one recognized it wasn't schizophrenia. I was bipolar."

Bipolarism causes emotional swings from mania to

depression.

"The mania gives you a thrill; you have extra energy," said Talkington. "But I'd get insomnia really bad and end up in the hospital. The depression was horrible, too. There were a couple of times I wanted to die. I didn't start getting better until I got the right diagnosis.'

But that diagnosis did not come for 12 years. In the meantime, she struggled with her situation and a world that didn't understand her.

Her own path. Her twin sister was not as fortunate. Shortly after their 21st birthday, Michelle committed suicide. The toll of losing a sibling again strained the family. Talkington escaped in piano. "I felt lost. Playing the piano was a way to get my feelings out."

Her sister lost her life, her father was a vagabond, and Talkington found herself drifting. She got a bachelor's degree in music in 1982, taught piano in Germany for a year, and even took courses toward a medical degree.

"It seems like I was in school forever and still hadn't found myself," she said. "In many ways I saw myself

falling in the same trap as my father."

Talkington's father disappeared in Corona, Calif., in 1981. After 20 years of trying to find out what happened, she had Doug Lakin declared legally deceased in 2001.

The standard treatment for bipolar disorder is lithium, and she started keeping her feet on solid ground. "But it took a long time after being properly diagnosed for me to get things together," she said.

She attributes the advances in treating mental illness and her own acceptance of her bipolar illness to her success, but it was still a long road. "I hate to say this, but I felt pure anger at the things that happened," Talkington said. "Anger about the way I was treated when I was misdiagnosed, of what happened to my dad and my sister. The anger gave me the mental energy to do something about it. It gave me the energy to become independent. It was good for me."

Talkington earned a third degree in chemistry. While finishing her chemistry degree, she got a job as a co-op student with the Omaha District lab in 1987. Shortly after, she got a full-time position in the lab as a GS-7.

"It helped that my mother had worked at the Corps," said Talkington. "People knew what happened in our family and were really supportive.

Struggle and pride. "My family and those who know me would tell you how my illness, my sister's illness, and my father's caused pain and anguish in their own lives," she added. "But at the same time I think they'd say they're proud of me taking care of myself and becoming an independent person and accomplishing what I have."

Talkington hopes to educate people around her about the struggles of the mentally ill. She sometimes wonders if her father would be alive if society's understanding, medical advancements, and other support had been there for them, like they were for her.

Today, she takes life day-by-day. "That's the real secret," she said. "One day is enough to handle."

She takes her daily medication and is careful not to over-obligate herself. She laughed and said, "Although I think I keep myself pretty focused, some folks around me may beg to differ.

At least she can allow herself to laugh. Mental illness took away her sister and father, but Talkington stands firm that her life will be different. "I'm a survivor."

(For more information about mental illness, visit the National Alliance for the Mentally Ill website at www.nami.org.)

Torch

Continued from previous page confirmation of what he hoped for.

"I had no idea who nominated me, but I suspected it was one of my co-workers," he said. "Thanksgiving Day I found out it was Janet. What a great gift from a special friend. We all dream of being in the Olympics and, though I didn't have the opportunity to compete, the 2002 Winter Olympics will always be special to me."

Madden is a veteran runner of 24 marathons, including two Boston Marathons. His best time is three hours, 18 minutes. He qualified to run in the 2002 Boston Marathon, and will represent the U.S. Army Corps of Engineers corporate marathon team in the 2002 Cowtown Marathon in Fort Worth this month. For the past two years, the Corps team has finished in first place in the race's corporate division.

"I've been running for 20 years, but didn't really get serious until 15 years ago when I started running competitively," Madden said.

"It takes a lot of time and encouragement to prepare for a marathon," he added. His wife, Judy, and daughters Janie, 13, and Kate, 10, as well as his mother and father, have supported him throughout his running career. At school, his daughters showed off their new Olympic Torch Relay shirts autographed by their dad.

Madden is also active in his church and community. The Maddens established and organized the annual St. Matthew Harvest 5K (3.1 miles) Run, held in Burleson, Texas. The run benefits Harvest House, a community organization for needy families.

Norfolk small business lets big contract

Article and Photo By Jerry Rogers Norfolk District

Norfolk District began the New Year with distinction, thanks to the success of its Small Business Program. Contracting Division here has approved a sub-contract, valued at more than \$8 million, under the Department of Defense Indian Incentive Program. This sub-contract is the largest in the U.S. Army Corps of Engineers, and the second largest Indian incentive sub-contract awarded in DoD, according to the program's administrator.

Indian Incentive Program. The DoD Appropriations Act of 2001 (Public Law 106-259), authorizes incentive fees be paid to prime contractors who sub-contract to qualified Native American and Alaskan Indian organizations, or to Indian-owned small businesses. The Indian Incentive Program directly pays the prime contractor five percent of the total amount of the subcontract. Currently, DoD has appropriated \$8 million under this new incentive program.

"I informed our prime contractors last fiscal year of this important new program," said Jack Beecher, Chief of Contracting Division. "Since then, we've processed one request from a prime. That sub-contract was in the \$120,000 range and merited the prime contractor an incentive award of \$6,000."

Beecher said that last December he re-



The Consolidated Learning Center at Fort Eustis, Va., was the largest HUBZone construction contract to date.

ceived another request from Tidewater-Skanska Inc. of Virginia Beach, Va., the prime contractor for the district's new Great Bridge bridge construction project. "The sub-contract request totals \$8,140,010, which will net Tidewater-Skanska an incentive fee of about \$407,000."

The sub-contract is significant because it gives the American Indian-owned small business, Mountain Chief Management Services, an opportunity to have a positive effect on the nationally low unemployment rate among American Indians. "This is one of the key reasons that Con-

gress passed PL 106-259," said Beecher.

"Tidewater-Skanska is pleased to have this opportunity to use the Small Business Program," said program manager Eric Reeves. "And in keeping with our policy, we will strive to support the growth and development of small businesses through various sub-contracting opportunities."

Fort Eustis. Beecher's effort to diversify the Small Business Program here continues to pay huge dividends, with Fort Eustis, Va., its latest beneficiary. Last August, Sen. Kit Bond of Missouri, ranking member of the Senate Committee on Small Business and Entrepreneurship, congratulated the Corps in a national news release for completing the largest HUBZone (Historically Underutilized Business Zone) construction contract to date, the \$4.3 million Consolidated Learning Center at Fort Eustis. The 25,000-square-foot education center opened a few weeks ago and features 17 classrooms, state-of-the-art technology, and 10 participating universities.

HUBZone. Norfolk District's record contract was awarded to Arriba Corp. of Norfolk, Va., which recruited workers from HUBZones in that city. To be certified as a HUBZone contractor, a business must be located in a HUBZone and agree to hire at least 35 percent of its workforce from people living in that zone.

"A contract of this size provides real money to a small business," Bond said. "By directing this contract to a HUBZone firm, the Army Corps of Engineers has helped put money into the hands of employees in some of the most-distressed communities in the nation."

Bond, who wrote the 1997 legislation establishing the HUBZone Program, formally congratulated the Corps in a letter to Lt. Gen. Robert L. Flowers, Chief of Engineers.

"The HUBZone program fundamentally changes the government's role in economic development," said Bond. "Instead of acting as a regulator, a grant maker, or a tax collector, the government acts as a customer."

HRomer

Corps takes care of Reserve soldiers

Mark Roupas Headquarters

It's been a little more than five months since the terrorist attacks on the World Trade Center, the Pentagon, and the crash of United Airlines Flight 93 in Pennsylvania.

In response to these attacks, on Sept. 14 the President signed an executive order declaring a state of national emergency and partial mobilization of the Ready Reserve of the armed forces to active duty. A partial mobilization has not been declared since the Gulf War.

The decision to implement partial mobilization versus a presidential call-up was based in part on limitations on the use of Reserve soldiers. Since the attacks occurred in the U.S., the implementation of partial mobilization provided the Secretary of Defense greater flexibility to confront this mission.

Throughout the response and recovery efforts in New York and at the Pentagon, the U.S. Army Corps of Engineers has been in action. As part of the "Total Army" concept, we are joined by Army Reservists, filling in crucial positions and augmenting our Tables of Organization where wartime shortages exist.

Today, about 12,000 Reservists have been called to duty under the President's executive order. Of that number, more than 170 Reservists are serving in a variety of roles with the Corps. Some are from troop program units, while others serve as Individual Mobilization Augmentees (IMA) on one-year assignments, or a sixmonth Temporary Tour of Active Duty (TTAD).

All these soldiers provide a valuable resource to help meet the Corps' missions in support of Operation Noble Eagle and Operation Enduring Freedom. Proper management and use of these soldiers will enable us to effectively support the national military strategy.

To date, we have learned about and supported soldier in-processing, pay, medical care, family support, rating chains, support forms, leave and pass policies, and even separation from the service – just about the entire cycle of soldier support.

That said, it's not too early to review some of the requirements to successfully and completely out-process Reservists who will leave during the next three months. One of the first items to process is an evaluation report. Whether it is an NCO Evaluation Report (NCOER), or an Officer Evaluation Report (OER), Corps division and Headquarters staff sections need to begin the review process to see who requires a report.

To accurately complete this task, we need to guard against some of the more common errors. For OERs, check to ensure the senior rater is qualified to render their portion of the report; a potential statement (for promotion, schooling and assignment) is included in the narrative; and in the senior rater block, a recommendation for three future assignments.

For NCOERs, again, ensure rating officers meet minimum qualifications; physical training test and height/weight information are included; and finally, reviewer marks concur/nonconcur with report is checked.

Also, for soldiers deserving additional recognition, an end-of-tour award may be appropriate and needs to be processed in time to be presented to the soldier before out-processing.

Along with these requirements is the need to ensure that the soldier is properly out-processed to ensure that their active tour of duty accurately reflects the time that he or she served.

Finally, there will be some additional paperwork required to move the Reservist from their duty station back to their home of record.

For soldiers who are not leaving in the next few months, we still have an obligation to care for their administrative and personnel requirements. Being the "new kid" on the block here in USACE, I've learned that most of the care of our Reservists is in the hands of someone who has the mission as an additional duty. Most of these personnel have done this mission for many years and do a great job. However, sometimes there are unique questions or circumstances. If you confront an issue or problem that you can't solve, here is a suggestion. The Army Reserve has a detailed website with answers to many routine questions. The address is www.2xcitizen.usar.army.mil. If this cannot answer the question, then contact one of the personnel listed at the end of this article.

While outprocessing soldiers completes part of this process, the more long-range requirement is to capture what went well and what did not. The after-action reports on how well we mobilized our Reserve personnel and sustained them during this operation will become an integral part of this process.

In fact, part of this information is needed to develop future IMA position requirements for our Mobilization Table of Distribution and Allowances. We are currently processing changes to this document, so your comments and suggestions for improving this program are needed.

Points of contact at USACE for Reserve personnel issues are Sgt. Maj. Mia Yamasaki, (202) 761-5535, or Juanita Harmon, (202) 761-1563. Mark Roupas is Chief of Military Personnel Division, (202) 761-0564.

Around the Corps

General officer news

Col. David Fastabend, commander of Northwestern Division (NWD), was promoted to brigadier general at Fort Lewis, Wash., on Jan. 7. Before his assignment to NWD last August, he worked for the Vice Chief of Staff of the Army at the Pentagon.

Col. Robert Davis, commander of South Pacific Division Commander (SPD), was promoted to brigadier general during a ceremony at the Corps' Bay Model in Sausalito, Calif., on Jan. 4. Davis served as the Corps Chief of Staff for one year before taking command of SPD last July.

Army Transformation wargame

The Corps works closely with the Assistant Chief of Staff (Installation Management) (ACS(IM)) to integrate installation change requirements with key decisions about Army equipment, training, personnel, and operations. This will ensure that installation requirements are integrated into the Army Transformation effort at the beginning of the process, rather than added as an afterthought.

To further this effort, the ACS(IM) and the Corps sponsored an Installation Transformation Wargame on Dec. 6 at Johns Hopkins University's Applied Physics Laboratory. The participants included general officer and Senior Executive Service players from DoD, the Army, the other armed services, other government agencies, and senior executives from the private sector.

Alvin Toffler Associates facilitated the wargame using hypothetical scenarios and installation concepts to examine the pros and cons of different installation features to support:

More rapid and effective deployment and sustainment of U.S. forces.

Higher levels of unit training and readiness.

Enhanced force protection and survivability.

 Enhanced well-being of servicemembers and their families.

 Versatility and flexibility to respond to continuous change.



Korean engineers study a sample of concrete masonry unit block construction. (Photo courtesy of Far East District)

FED hosts training program

Throughout the year, the Republic of Korea (ROK) hosts U.S. forces. Once a year, the role reverses when Far East District (FED) hosts guests from its host nation.

Every year exchange students from Korea's Ministry of National Defense (MND) attend an eight-week training program at FED to better understand U.S. business and decision-making processes.

The most recent training class began Oct. 29 with six students -- three civilians from MND's Defense Procurement Agency, and three officers from the ROK army, navy, and air force.

"The FED teams and their work are well organized

and systematically planned out from the beginning stages to the end," said Maj. Kim, Jung-Wan of the ROK army 1175 Field Engineers. "I think that's what makes smooth construction for all FED projects. The concern and care of safety at the sites are also something that needs to be learned from the FED team."

"We all work in the same business, but it's good to see the same business operating in a different environment," said Lt. Choi, Seung-hyun from ROK navy headquarters. "I know this was a great experience for me. I don't know exactly how I'm going to apply the things I learned from this to my present work, but I'm glad I had the opportunity to attend this training."

The class started their training with an orientation in Programs and Project management Division (PPMD), then toured all branches in FED (Safety, Contracting, Geotech, and so on) for a briefing on how each contributes to FED's business process. The length of the briefings depended on the relevance of the branch to their learning. For example, because most class members were in project management, they spent eight days with PPMD, and one in Resource Management.

The group also took a field trip to the Combined Defense Improvement Program (CDIP) at K-16 Air Base near Seoul. CDIP is a ROK government funded program that is jointly managed. The ROK government awards the contract and supervises construction; FED designs the project and can recommend a contractor. Current CDIP projects at K-16 include a vehicle maintenance building and an Aviation Restructuring Initiative barracks.

DPW award

U.S. Army Europe has given Europe District the DPW (Directorate of Public Works) Installation Support Program of the Year Award for its service to the 100th Area Support Group (ASG) in fiscal year 2001 (FY01).

The 100th ASG nominated Europe District based on assistance provided on a myriad of projects for Grafenwohr Training Area, East Camp Grafenwohr, South Camp Vilseck, and the Amberg and Regensburg Housing Areas.

Major areas cited were managing the \$22 million upgrade of Range 118 to a Multi-Purpose Range Complex, and technical advice for developing a master construction schedule and its impact on facilities, moves, and people for the Efficient Basing East initiative.

In FY01, Europe District project managers orchestrated 64 projects worth \$44.8 million, including \$21 million in new construction, for the 100th ASG. The district assisted in installation planning with surveys, mapping, and housing community plans. Installation environmental stewardship in the 100th ASG benefited from the district's close working relationships with host nation construction authorities, obtaining permits and developing services contracts, and conducting environmental surveys.

Mississippi Quality Award

Vicksburg District has earned an award from the Mississippi Quality Awards program, presented for applying the principles of continuous improvement and world-class practices to enhance customer satisfaction. The district is one of 10 organizations throughout the state honored as 2001 award recipients.

The four levels in the award program guide organizations involved in continuous improvement programs to assess their capabilities and achievements. All award criteria are based on the Baldrige National Quality Award.

Environmental project begins

Savannah District broke ground for the initial construction phase of the Lower Savannah River Basin Environmental Restoration Project (LSRB) on Dec. 10.

The \$4.79 million project is authorized under Section 102 of the Water Resources Development Act of 1996. Savannah, Ga., will fund 25 percent of the design and

construction; the federal government will pick up the remaining 75 percent. It is the first Congressionally authorized environmental restoration project undertaken by Savannah District.

The project involves building a large diversion structure upstream of Navigation Cut #3 that will force water back into old oxbows cut off by the navigation cuts. Created in the 1960s, the cuts assist barge traffic between Augusta, Ga., and the sea.

"The navigation cuts did what they were intended to in those days," said Monica Simon-Dodd, LSRB project manager. At that time, the Corps' emphasis was navigation. But as willows started to grow and sediment accumulated around the cut off bends, they became isolated from the river, causing reduced runoff and lower water levels to surrounding areas.

Besides restoring flows to the river bends, the project will open up the channel to Bear Creek and realign the mouths of both Bear and Mill creeks. A more natural water flow will be redirected into the 4,708-acre wildlife refuge, which provides habitat for wintering waterfowl, wading birds, and endangered species.

Increased flows into the mouths of those creeks will also allow more water to flow by Savannah's freshwater intake on Abercorn Creek, enhancing water quality, reducing treatment costs, and saving the city \$200,000 to \$250,000 a year.

The project has the support of the Georgia Department of Natural Resources and the U.S. Fish and Wildlife Service. It is part of a larger effort to develop new strategies to restore and enhance habitat and water quality by increasing flows throughout the Lower Savannah River Basin and surrounding wetlands.

Construction is scheduled to be complete in July.

Corrections

The article published in *HR Corner* in the January issue of *Engineer Update* was actually provided by the Directorate of Resource Management. The POC phone number in the article should be (202) 761-1082.

Mitigation banking conference

Five Corps representatives will join mitigation bankers, other regulators, and banking critics Feb. 27-March 1 to discuss mutual problems and emerging markets. They will give the Corps' perspective on federal legislation and regulation, and represent the Corps in sessions focusing on federal policy vs. local implementation.

The chair of the House Science Committee, New York Congressman Sherwood Boehlert, will keynote the conference. EPA Administrator Christine Todd Whitman will close the conference with a luncheon address.

Members of Congress and their staff will join the conference field trip to see three nearby Virginia mitigation banks in various stages of development.

To read a copy of the program, go to www.terrene.org. For a printed copy, e-mail www.terrinst@aol.com, or phone Terrene at (703) 548-5473.

National resources gateway

The natural resources management (NRM) mission is to manage and conserve natural resources, consistent with ecosystem management principles, while providing quality public outdoor recreation experiences, and serving the needs of present and future generations.

To aid in meeting this mission, the Corps launched the NRM Geteway website last April. While the information on the website is intended for the Corps' NRM community, much of is also available to the general public.

The NRM Gateway takes Corps staff into the Corps' recreation, environmental stewardship, and environmental compliance programs. It improves communication in the NRM community and preserves the organization's institutional knowledge. The website integrates the people, policies, and practices of the NRM community, providing information the way managers manage.

Long year holds cancer, car wreck

Article by Nancy Gould Photo by Jonas Jordan Savannah District

If anyone has reason to hope for a better year in 2002, it's Nancy Hamilton. In 2000, she was diagnosed with cancer, and in 2001 she endured chemotherapy and radiation treatment, *plus* a car wreck.

Hamilton was 35 years old when she was diagnosed with breast cancer. She is a wife, mother of two, and an engineer in Savannah District's Fort Jackson field office. Shaken, but with a lot of prayer and support, Hamilton kept her life somewhat intact as she underwent nine months of treatment — a biopsy to determine the extent of the cancer, removal of cancerous lymph nodes, chemotherapy, a lumpectomy, and removal of more lymph nodes in a follow-up investigation. When doctors discovered a trace of cancer, she underwent three more months of chemotherapy, plus a month-and-a-half of radiation.

Hamilton worked throughout her treatment, missing very few days despite bouts of nausea from the chemotherapy and discomfort from the life port pumping medication into her chest. On the weekends, her husband, Jeff, a nurse, helped with her treatment and recovery. But, for the most part, Hamilton continued the care of her family as she always had, maintaining a degree of independence that was a needed boost to her confidence.

Finally, after a mammogram revealed no further evidence of the disease, doctors gave her a clean bill of health.

Then, the second shoe dropped.

On Oct. 13 a drunk driver swerved into oncoming traffic and hit her car head-on. Her children, Kristin, 11, and Zachary, 6, were in the back seat of their small Honda.

"I remember saying, 'He's going to hit us!' then waking to voices urging me to stay calm," Hamilton said. "I could hear my kids crying outside the car."

She was pinned inside the car. As rescue workers began to cut her free, she sensed their fear that the car's roof would crush her.

"At some point after they began cutting, I pulled my foot free and began to drag my body out the window," said Hamilton, who said she experienced an unusual sense of peace throughout the ordeal.

"If the accident had to happen, it turned out better than it could have," Hamilton said. Kristin emerged from the wreck with a broken collarbone; Zachary received minor



Nancy Hamilton has good reason to smile, after weathering cancer surgery, chemotherapy, radiation treatment, and a car wreck.

cuts and bruises. Hamilton suffered a broken shoulder and crushed ankle, which are on the mend, and a collapsed lung, which has healed.

Hamilton doesn't know why the accident happened, or why it happened when it did. But she's beginning to see some value in it. It taught her things the cancer could not. Throughout the cancer treatment she retained some control of her life. But the accident forced dependence. She had to look to others for everything, even her hygiene.

"It's been a severely humbling experience," Hamilton said, pointing to her parents' willingness to put their lives on hold during her recovery. "I don't know what I'd do without them. They've moved in to take care of me and the kids so Jeff can continue his shift work schedule.

"But it's also been frustrating," Hamilton added. "I can't get out by myself, walk, or even use crutches. Before the accident I finally felt like my life was back on track after a year of cancer treatment. Then I got smacked down again.

"I've learned not to assume anything," she continued.
"We think we have control, but we don't. God does. I've learned every day to pick out the small reasons to be thankful, not just the big ones."

"Her physical, emotional, and spiritual strength is inspiring," said Fermin Borrero, the Fort Jackson resident engineer who has worked with Hamilton since she was an intern there 16 years ago. "Make no mistake, she's a fighter. She's always been a positive person, but she's been tested this year. I went to comfort her after the accident, but it was Nancy who comforted me."

"My Corps family has encouraged me with their calls, letters and visits," Hamilton said, mentioning that the district commander's visit meant a lot. "He took time to find the hospital on his trip home from Washington, D.C. I'm sure he was anxious to get home to his wife and kids."

"Our visit was a real encouragement to me," said District Commander Col. Roger Gerber. "She was upbeat and thankful for the way things worked out, especially with the children. She told me her daughter normally rides in the front seat because she's so tall and needs the leg space. That side of the car was completely demolished."

Hamilton is also learning to accept offers of assistance from her friends and neighbors without the guilt and worry of repaying or inconveniencing them.

"I appreciate the help, the prayers, personal visits, and calls," she said. "I never thought they'd mean so much."

Help includes Borrero arranging to let her work from home for about three months, or until she can get around without a wheelchair. Like anyone else in her situation, Hamilton has bouts of frustration and depression, although she said they are usually short. Her resolve has been tested and yielded valuable personal growth.

"My cancer could return," she said. "I believe I'll be healed. I may not be exactly like I was before, but I'll be okay. I'm leaving my worries with Him. Like that poem, 'Footprints in the Sand' says, I'm letting Him carry me."

'I'm a stroke survivor, not a stroke victim.'

By Becki Logue Vicksburg District

Dec. 20, 2000, started as just another day for Brenda Raphelt. She got dressed and drove to Vicksburg District headquarters.

On the way to work, she had a stroke.

When she parked her car, Raphelt could not get out of the car. She became frightened and drove back home. She drove slowly on the frontage road, afraid to take the interstate, until she was almost home, when she began to experience more of the effects of the stroke.

She made it home, pulled into the driveway, opened the car door, and turned sideways in the seat. She could not put the car in park, but managed to keep her foot on the brake. When her husband, Nolan, returned from the store, he went into the house expecting Raphelt to follow. But when she did not come in, he went out and found her sitting in the car in early stages of a stroke.

By that point, Raphelt could not move or speak.

The next few days were a whirlwind of tests, anxiety, fear, and anticipation, Raphelt had suffered a major hemorrhagic stroke, and the doctors were not giving much hope.

Days turned into weeks, and gradually the doctors gave a little more hope. Raphelt would live, but it would take much therapy and rehabilitation for her to return to a somewhat normal life. And they said that she would never return to work. But Raphelt never doubted she would return to work, and was dedicated to her therapy. She wanted to return to work because she loves her job. She always held strong to her faith that she would make a full recovery. "I am a stroke *survivor*, not a stroke victim," she said. She returned to work part-time last March.

Now, almost a year later, Raphelt is working full time. She also takes care of her home, her husband, teenage daughter, older daughter, and three grandchildren.

Raphelt is going to counseling and has a stroke survivor support group that helps her cope with what happened. She accepts that she is living with brain damage (although it is not severe), and she is coping day-to-day.

Raphelt has always been someone who went the extra mile to help, and make things special around the office. She had become proficient on the computer and many employees went to her for assistance.

She always gave all office employees a birthday card, and every Christmas she gave each VCCO employee a Christmas card and a special ornament. Last Christmas was no exception. Raphelt made each employee a card on her home computer, and attached a little ornament to each. She handed them out to each employee personally.

Vicksburg District employees declared Dec. 20 "Celebration of Life Day" in her honor. The employees gave her two dozen yellow roses and a pewter vase. The roses were presented to Raphelt one at a time by employees who hugged her and celebrated the gift of life with her.



The doctors gave no hope that Brenda Raphelt would return to work after her stroke. But she is back at work full-time. (Photo courtesy of Vicksburg District)